



## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

#### In re Application of:

Sandhu et al.

Serial No.: 10/637,108

Filed: August 8, 2003

For: LOW RESISTANCE CONTACT TO SILICON HAVING A TITANIUM SILICIDE INTERFACE AND AN AMORPHOUS TITANIUM CARBONIDTRIDE BARRIER

LAYER

Examiner: M. Lebentritt

Group Art Unit: 2824

Attorney Docket No.: 2269-3264.6US

(92-0280.09/US)

#### CERTIFICATE OF MAILING

I hereby certify that this correspondence along with any attachments referred to or identified as being attached or enclosed is being deposited with the United States Postal Service as First Class Mail on the date of deposit shown below with sufficient postage and in an envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

April 6, 2004
Date
Signatur

Deidra Pfeil
Name (Type/Print)

#### SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Sir:

In compliance with the duty to disclose information material to patentability pursuant to 37 C.F.R. § 1.56, it is respectfully requested that this Supplemental Information Disclosure Statement be entered and the documents listed on attached Form PTO-1449 or PTO/SB/08 be considered by the Examiner and made of record. The listed documents are from co-pending application Serial No. 10/637,107, filed August 8, 2003. Copies of the listed documents are enclosed pursuant to 37 C.F.R. § 1.98(a).

In accordance with 37 C.F.R. § 1.97(g) and (h), filing of this Supplemental Information Disclosure Statement is not to be construed as a representation that a search has been made or an admission that the information cited herein is, or is considered to be, material to patentability as defined in 37 C.F.R. § 1.56(b). Further, no representation is made by Applicants herein that no other possible material information as defined in 37 C.F.R. § 1.56 (b) exists.

### U.S. Patent Documents

U.S. Patent No.	Publication Date	<u>Patentee</u>
4,998,151	03/05/91	Korman et al.
5,242,860	09/07/93	Nulman et al.

#### Foreign Patent Documents

Document No.	<b>Publication Date</b>	<u>Patentee</u>	
WO 86/01640	03/13/86	Dean	
	Other Documents		

EIZENBERG et al., "TiCN: A new chemical vapor deposited contact barrier metallization for submicron devices", Appl. Phys. Lett. 65 (19), 7 November 1994, pps. 2416-2418.

Peng et al., "Properties of CVD-W Overgrowth on PVD and MOCVD TiN Layers, IEEE, 5th International Converence Proceeding on Solid-State and Integrated Circuit Technology, 1998, pps. 211-214.

Applicants offer to supply any explanation or discussion of the documents which the Examiner feels is necessary or desirable and which is requested.

This Supplemental Information Disclosure Statement is filed after the mailing date of the first Office Action on the merits.

I hereby certify that no item of information contained in the Supplemental Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application or, to the knowledge of the undersigned after making reasonable inquiry, was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of the statement, and therefore no fee is due.

Respectfully submitted,

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Date: April 6, 2004

JRD/sls:djp

Enclosures: Form PTO-1449 or PTO/SB/08

Copy of documents cited

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Approved for use through 10/31/2002. OMB 0651-0031

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Sheet

# IN INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

	Complete if Known	
Application Number	10/637,108	
Filing Date	August 8, 2003	
First Named Inventor	Sandhu et al.	
Group Art Unit	2824	
Examiner Name	M. Lebentritt	
Attorney Docket Number	3264.6US (92-0280.09/US)	

U.S. PATENT DOCUMENTS							
Examiner Initials *	Cite No.			Number - Kind Code <sup>2</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		US-4,998,151	03/05/91	Korman et al.			
		US- 5,242,860	09/07/93	Nulman et al.			
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FOREIGN PATENT DOCUMENTS							
Examiner Cite	Foreign Patent Document		Name of Patentee or	Pages, Columns, Lines,			
Initials*	No.1	Country Code <sup>3</sup> - Number <sup>4</sup> - Kind Code <sup>5</sup> (if known) Publication Date MM-DD-YYYY Applicant of Cited Document	Applicant of Cited Document		T <sup>6</sup>		
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Substitute for	r form 1449A/PTO			Complete if Known		
INITIO		TOTA	OCT OCUBE	Application Number	10/637,108	
_			SCLOSURE	Filing Date	August 8, 2003	
STATEMENT BY APPLICANT				First Named Inventor	Sandhu et al.	
				Group Art Unit	2824	
	(use as many she	ets as i	necessary)	Examiner Name	M. Lebentritt	
Sheet	2	of	2 _	Attorney Docket Number	3264.6US (92-0280.09/US)	

	OTHER PRIOR ART NON PATENT LITERATURE DOCUMENTS					
Examiner Initials *	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>			
		EIZENBERG et al., "TiCN: A new chemical vapor deposited contact barrier metallization for submicron devices", Appl. Phys. Lett. 65 (19), 7 November 1994, pps. 2416-2418.				
		Peng et al., "Properties of CVD-W Overgrowth on PVD and MOCVD TiN Layers, IEEE, 5 <sup>th</sup> International Converence Proceeding on Solid-State and Integrated Circuit Technology, 1998, pps. 211-214.				
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<sup>&</sup>lt;sup>1</sup> Unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.